Calibration/I&T Committee Kickoff Meeting
2 March 2001

- Introductions, absent members
- Review the charge
- Review the schedule
- Plan the work (define subgroups, tasks)
- Other business/Future meetings

Review of the charge

With level III requirements documents nearing completion, it is time to start work on the next logical step of detailed planning for the Calibration and the overall I&T. The project needs this planning in place prior to PDR to generate a more detailed schedule and to budget adequate resources (personnel, facilities, equipment).

The group is charged with producing a Calibration Plan and Overall I&T Plan. In particular, the group should

1) assess what tests are needed to verify each requirement in the LAT Performance Specification. The group should also review the subsystem plans for verifying the Level III Subsystem Requirements.

SR comments: 1) It is not our job to design the detailed testing of the components of the subsystems (e.g., for TKR: SSDs, ladders, trays, etc.). This is done within the subsystems. We will *review* these plans to make sure the whole test plan is coherent (no over-testing, etc.).

2) As several people have noted, there are additional system tests not contained in the current requirements documents, particularly functional testing at different stages of the I&T.

Charge (continued)

2) produce a Calibration Plan that addresses each of these tests within the context of the current schedule. The Calibration Plan should include all calibration activities, both during I&T and after launch.

3) produce an overall I&T Plan that incorporates the relevant portions of the Calibration Plan and addresses all aspects of environmental testing.

4) assess the top-level manpower and skills mix needed to implement the I&T plan. Rough out the schedule, top-level budget and top-level logistics of where the work will be done.

5) assess the facilities, equipment and resources that are needed and that are available (test beams, environmental test facilities, engineering model and other prototype hardware, GSE, etc.). The planning should include early checkout of supporting GSE and flight software.

The plans should be of sufficient detail and completeness that initial logistical planning can proceed.

SR comment: These tasks follow logically in series, but advance work on later topics should begin in parallel (see later).

Review of schedule

Preliminary Schedule

Item (1) by 1 April.

First draft of item (2) by 15 April. Final draft by 1 May.

First draft of item (3) by 1 June. Final draft by 15 June.

Items (4) and (5) by 15 July.

Planning the work

1. Assess the tests needed:

LAT PS (see http://www-glast.slac.stanford.edu/documents)

divides into two categories: science performance and environmental/interface.

Science – volunteers:

Environmental – volunteers:

Functional testing:

Review subsystem tests:

Work 2) Calibration Plan

- **"Calibration" means**
  - **Determining the fundamental response of detector elements**
  - **Determining the performance of the instrument**
  - **Characterizing variations over range of operations environments**
  - **Characterizing variations over time**
- **Calibration plan flows from the requirements: ground and on-orbit – integrated approach. Focus here on ground-based details.**
- **Ground-based calibration effort is tightly coupled to the I&T plan:**
  - **–sea-level muons and sources for detector elements**
  - **–sea-level muons for LAT testing during environmental testing**
  - **–beam tests in photon, electron, and hadron beams**

Status: pieces exist (early thinking about beam tests, CAL calibration on-orbit, alignment measurements during thermal cycling). Needs development.

Work 3&4) I&T Plan

Inputs:

- Calibration plan
- Environmental tests
- Functional tests
- Testing done by subsystems

Status: see Lehman review talk by Martin, to be covered at next meeting.

Work 5) Facilities, equipment, resources

Follows items 1-4, however work should start now on:

- Beam planning. Needed as input to calibration plan to know what will be available. Subcommittee:

- Assess subsystem plans for their respective Engineering Models – what is available when, and how can it be used?

- Plan documentation, databases, etc. OK to start this now, but requirements should be clarified first.

Revised schedule